Finnish teachers' perceptions on distributed leadership: resource and agency

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Abstract

Applying the resource–agency duality model, this paper examines Finnish teachers' perceptions on distributed leadership. A total of 203 comprehensive and secondary school teachers responded to an online survey that investigated the following aspects within the Finnish school context: leadership structures and power distance, leadership as a resource, leadership as an agency, and motivators and demotivators underlying teachers' participation in leadership tasks. The survey results showed that Finnish schools did not have a one common leadership structure. The resource and agency distributions showed both alignment and misalignment. In particular, the misalignment was manifested in the tight school budgets, local educational policies, and national educational laws whose impact the Finnish teachers wanted to decrease. Meanwhile, the teachers wanted to exercise stronger agency together with mid-level team leaders and students. Time, financial resources, and trust were identified as the most powerful driving force behind distributed leadership. Teachers were motivated to lead if the tasks matched their expertise and did not disturb their teaching. In contrast, leadership titles or assigning administrative tasks were less effective in promoting distributed leadership among Finnish teachers..

Keywords: distributed leadership, resource–agency duality model, Finnish schools

Introduction

The over-attribution of organizational success to an individual leader's performance has given rise to the notion the "romance of leadership," which has intrigued scholars for centuries (Meindl 1995; Meindl, Ehrlich, Dukerich, 1985). However, over the past two decades, this notion has been challenged by a growing body of literature on the theme of distributed leadership. These findings reveal that there are other factors, besides individual leaders, that play an equal, if not more, significant role in organizations. The concept of distributed leadership has gained considerable popularity in the school context because leadership in the teaching and learning domain has become more dynamic and interactive. Individual principals can no longer handle all the administrative and pedagogical tasks alone (Kangas, Venninen, Ojala, 2015; O'Connor, Day, 2007). Recent development in distributed leadership suggests that achieving organizational goals should not be the only criterion for measuring the value of distributed leadership (Fitzgerald, Gunter, 2006; Lumby, 2013). The ethical foundations of distributed leadership should be also examined from the individual perspective, especially in terms of how organizations provide and support agency from individuals and communities (Tian, Risku, Collin, 2015; Woods, Bennett, Harvey, Wise, 2004; Woods, Woods, 2013).

The present study examines the landscape of distributed leadership in Finnish comprehensive and secondary schools from the viewpoint of teachers. Applying the resource–agency duality model, this study aims to answer what kind of leadership has been distributed to whom and how (Tian, et al., 2015). Finland has been chosen as the research context for three reasons. First, Finland has been one of the most consistent top performers on the OECD Program for International Student Assessment (PISA) tests since 2000. Investigating distributed leadership in a high-performing education system is likely to shed light on its successes. Second, according to Sahlberg (2015), Hargreaves and Shirley (2012), Finnish education follows a different path of development, which steers away from standardized testing, student streaming, and competition. Most of the existing literature on distributed leadership investigates competition-driven educational systems such as those in the U.S. and the U.K. Very few studies examined how distributed leadership functions in an equity-driven system like Finland. Third, since the 1960s, Finnish education has been driven by the basic values of promoting equity, local autonomy, and flexibility (Aho, Pitkänen, Sahlberg, 2006). In fact, since the 1980s, educational administration has been gradually decentralized to local municipalities and schools. With increasing teacher autonomy, distributed leadership has emerged an inevitable trend in the Finnish schooling context (Kangas, et al., 2015; Sahlberg, 2015).

1. Theoretical framework

The theoretical framework underpinning this study is the resource–agency duality model proposed in Tian, Risku and Collin's (2015) meta-analysis of distributed leadership in 2002–2013. According to Tian et al., distributed leadership has two distinct and yet intertwined aspects. From the organizational aspect, leadership as a resource is distributed at various hierarchical levels to serve organizational purposes. From the individual aspect, leadership as an agency is exercised by various actors and artefacts to influence work processes as individuals or communities. Mapping the distribution of leadership resources and agency reveals the manifestations of distributed leadership in practice.

Tian et al. (2015) also reported that to date very few distributed leadership studies have taken both organizational and individual aspects into account. Scholars who hold a prescriptive–normative view on distributed leadership tend to focus mainly on the organizational aspect. As a result, most empirical studies investigate causal relations between distributed leadership and students' test performance, school effectiveness, financial achievement, and other measurable outcomes stipulated in the government agenda (Gunter, Hall, Bragg, 2013; Hartley, 2010; Woods, Woods, 2013). Following that line of thinking, many educational systems tend to set educational priorities according to competitive values (Hartley, 2010; Sahlberg, 2015), which advocate distributing resources through rigorous competitions such as standardized tests, league tables, labor market-oriented curricula, and cost effective pedagogical approaches. In contrast, individual agency in distributed leadership has been largely understudied (Tian et al, 2015). Lumby (2013) criticizes many distributed leadership studies for being silent about the power issues and taking the micro-politics for granted. One recent research which closely examines the use and abuse of power reveals that some distributed leadership approaches which serve the short-term school goals seem to restrain leaders', teachers', and students' agency and eventually hinder sustainable development in the long run (Tian, Collin, forthcoming). Since organizational goals may be at odds with individual agency, it is vital to examine both aspects of distributed leadership simultaneously. In the present study, the resource–agency duality model has been applied to acquire a more comprehensive understanding of distributed leadership in Finnish schools.

2. Research question and design

A quantitative approach has been used to answer two research questions. *What are the manifestations of distributed leadership in terms of resource and agency in Finnish schools? What are the key motivators and demotivators underlying Finnish teachers' participation in distributed leadership?*

Instrument

The present article utilized data from 203 Finnish teachers collected via an online survey titled *Distributed leadership in Finnish and Shanghai Schools (Teacher questionnaire)* for a larger comparative study of distributed leadership in Finnish and Shanghai schools. The questionnaire sought demographic information such as the respondents' gender, school type, and current teaching and leadership positions. Two modifications were made to the Chinese version to ensure that the list of current positions was suited to the Finnish context.

First, the roles of vice-principals and assistant principals were separated. In Finland, municipalities are the main providers of primary and secondary level education. Municipal education bureaus autonomously decide whether to appoint a vice-principal (Vararehtori in Finnish) or an assistant principal (Apulaisrehtori) in local public schools. A vice-principal usually refers to a temporary leadership position that allows a teacher to exercise the authority of a principal when he/she is away for a long period of time. The assistant principal, on the other hand, is a formal leadership position with regulated working hours for school administration and a school-based job description. Assistant principals usually co-lead with the principals on a daily basis in addition to executing their teaching duties (Mäkelä, 2007).

Second, a special education teacher was added to the list of current positions. In 2011, the Finnish special education amendment stipulated that schools should provide three-tier (i.e., general, intensified, and special) support to students (Finnish National Board of Education, 2011). Finnish schools are obliged to recruit special education teachers who provide part- or full-time support to students. Because a special education teacher is not present in most Shanghai public schools, it was excluded from the Chinese version of the questionnaire, to avoid confusion.

The second part of the questionnaire applied the distributed leadership resource–agency duality model to answer the two research questions. It comprised four sections: *leadership structures and power distance, leadership as a resource, leadership as an agency,* and *motivators and demotivators.* The first three sections identify the manifestations of distributed leadership in Finnish schools in terms of resource and agency. The fourth section identifies the strongest drivers of Finnish teachers' motivation to lead. Table 1 summarizes the key variables of each section.

The *leadership structures and power distance* section required the respondents to choose one or several metaphors to describe their school administrative structures, and then to rate the power distance between the school principal and teachers on a 0–10 continuous scale. The purpose of this section was to examine the correlation between administrative structures and power distance. Gronn (2000) depicted distributed leadership as a fluid and emergent phenomenon, contrary to fixed

Table 1. Questionnaire design

Part I		
Demographics		
Part II	**Flexible**	
Leadership structures and power distance	Spider's web / Organic teams; **One power center** / **Multiple power centers**; Pyramid / Fountain	
	Fixed	
Leadership as a resource (17 actors and artefacts)	Actors	
	Formal leaders	Informal leaders
	● *Principal*	● *Teachers*
	● *Vice-/assistant principal*	● *Students*
	● *Team leaders*	● *Parents*
	● *Superintendents*	● *External stakeholders*
	Artefacts	
	● *Student test scores*	● *Information-sharing platform*
	● *Curriculum*	● *School reputation*
	● *School culture*	● *National educational laws*
	● *Budget*	● *Local educational policies*
	● *Timetable*	
Leadership as an agency (10 work processes)	Administration	Strategic development
	● *Managing administrative work*	● *Setting school vision*
	● *Delegating tasks*	● *Making strategic plans*
	● *Leading teacher teams*	● *Providing resources*
	Pedagogy	Relationship building
	● *Leading students' learning*	● *Developing school culture*
	● *Evaluating school performance*	● *Networking with stakeholders*
12 Motivators	Affective factors	Social normative factors
	● *Task matching expertise*	● *Enough time*
	● *Career opportunities*	● *Democratic culture*
	● *Decision-making power*	● *Trust from others*
	● *Official leadership title*	● *Enough financial resources*
	● *Colleagues' recognition*	● *Extra pay*
	● *Principal's support*	● *Risk-bearing environment*
12 Demotivators	Hygiene factors	
	● *No extra pay*	● *Distraction from teaching*
	● *No official leadership title*	● *Excessive administrative work*
	● *No decision-making autonomy*	● *Competition with colleagues*
	● *No principal's support*	● *Task mismatching expertise*
	● *No career opportunities*	● *Punishment for failure*
	● *Insufficient financial resources*	● *Mistrust from others*

Source: own elaboration

and stagnant leadership. Other scholars reported that distributed leadership can be manifested in one or multiple power centers which exercise micro politics, formal and informal leadership, and rhetorical partnership (Björk, Blase, 2009; Bolden, 2011; Lumby, 2009; Spillane, 2006; Storey, 2004). By combining the ideas of the power source (one vs. multiple power centers) and structure stability (fixed vs. flexible), four metaphors of leadership structures were created. The *pyramid* had one fixed power center at the zenith of the hierarchy, distributing leadership from top to down; the *fountain* was built on multiple power centers at the bottom, exercising bottom-up leadership with a stable nature; the *spider's web* structure contained one power center at the center but instilled flexibility in team building; and *organic teams* comprised multiple power centers and flexibly formed teams in response to the external task environment. The power distance scale (0–10) was divided into three categories for statistical analysis: low (0–3.33), medium (3.34–6.67), and high (6.68–10).

In the *leadership as a resource* section, respondents were asked to evaluate the strength of influence of 17 actors and artefacts on a 1–5 scale (1 = none, 2 = little, 3 = some, 4 = a lot, 5 = decisive) and express their wishes to increase (2 = increase a lot, 1 = increase some), decrease (-2 = decrease a lot, -1 = decrease some), or maintain (0= maintain the same) the influence of each item. The purpose of this section was to identify the dominant actors and artefacts serving as key leadership resources in Finnish schools. The selection of 17 items was based on previous findings on distributed leadership. Formal leaders, such as principal, vice-/assistant principal, team leaders, and superintendents, have been widely recognized as the gatekeepers who nurture or undermine the leadership from others (Gunter, et al., 2013; Harris, 2012; Mayrowetz, Murphy, Louis, Smylie,2009; Scribner, Sawyer, Watson, Myers, 2007). Informal leaders, which mainly refers to non-leading teachers, students, parents, and external stakeholders, exert their impact on leadership in a less visible way, which can either align or misalign with the agendas of the formal leaders (Hulpia, Devos, 2009; Jäppinen, Sarja, 2012; Leithwood, Mascall, Strauss, Sacks, Memon, Yashkina, 2007; Leithwood, Jantzi, 2000; Memon, 2005; Pederson, Yager, Yager, 2012; Spillane, Camburn, Pareja, 2007). Artefacts, including *student test scores, curriculum, school culture, budget, timetable, information-sharing platform, school reputation, national educational laws*, and l*ocal educational policies* have served as powerful tools that constitute the interactions between leaders, followers, and the situations in distributed leadership (Gunter, et al., 2013; Hartley, 2010; Murphy, Smylie, Louis., 2009; Spillane, Halverson, Diamond, 2004; Spillane, 2006; Timperley, 2005).

The *leadership as an agency* section examined another aspect of the resource–agency duality model. The respondents

rated the agency exercised by the school principal, mid-level team leaders, and teachers on 10 concrete work processes on a 0–4 scale (0 = not sure, 1 = none, 2 = very little, 3 = some, 4 = a lot). These 10 processes, which covered administrative, pedagogical, strategic development, and relationship building dimensions of school leadership work, were synthesized from several significant distributed leadership studies (e.g., Anderson, Moore, Sun, 2009; Mayrowetz, et al., 2009; Spillane, et al., 2007; Timperley, 2005). The administrative processes covered *managing administrative work, delegating tasks* and *leading teacher teams*; the pedagogical processes comprised *leading students' learning* and *evaluating school performance*; the strategic development processes consisted of *setting school vision*, *making strategic plans*, and *providing resources*; and the relationship-building processes referred to *developing school culture* and *networking with stakeholders*.

The *motivators and demotivators* section first surveyed Finnish teachers' perceptions of their workload (1 = too heavy, 2 = just fine, 3 = too little) and then asked the teachers to evaluate the effectiveness of 12 motivators and 12 demotivators on a six-point Likert scale (0 = not sure, 1 = not at all, 2 = very little, 3 = some degree, 4 = quite a bit, 5 = a great deal). The items in this section served two purposes: first, they examined the relationships between workload and teachers' motivation to lead, and second, they helped rank the effectiveness of motivators and demotivators in the Finnish context. The 12 motivators and 12 demotivators were derived from Herzberg's (1964) two-factor theory along with several other distributed leadership studies (e.g. Fairman, Mackenzie, 2015; Gunter, et al., 2013; Hulpia, Devos, Rosseel, Vlerick., 2012; Smylie, Mayrowetz, Murphy, Louis, 2007).

Motivators, which can be associated with Herzberg's satisfiers, are factors that enhance people's extrinsic and intrinsic motivation to carry out certain work. In the early twenty-first century, researchers identified two types of motivation to lead (MTL): affective MTL and social normative MTL (Brockner, Higgins, 2001; Kark, Van Dijk, 2007; Van Dijk, Kluger, 2004). The MTL theory suggests that promotion-focused people are motivated to lead because they recognize their desire to influence, enjoy the leadership process, and seek personal development (affective MTL). On the other hand, prevention-focused people are motivated to lead when they have to carry out duties, prevent negative outcomes, and seek security (social normative MTL) (Kark, Van Dijk, 2007). The 12 motivators considered in the survey were roughly divided into the two categories under the affective–social normative MTL framework. The affective MTL included *task matching expertise, career opportunities, decision-making power, official leadership title, colleagues' recognition, and principal's support*. The social normative MTL comprised *enough time, democratic culture, trust from others, enough financial resources,*

extra pay, and risk-bearing environment.

Demotivators, which can be linked to Herzberg's hygiene factors, are factors whose absence would trigger dissatisfaction or disappointment, preventing people from carrying out certain tasks (Herzberg, 1964). The 12 demotivators included in the survey were *no extra pay, no official leadership title, no decision-making autonomy, no support from the principal, no career opportunities, insufficient financial resources, distraction from teaching, excessive administrative work, competition with colleagues, task mismatching expertise, punishment for failure,* and *mistrust from others.*

Participants

From December 2013 to September 2015, a total of 203 randomly selected Finnish teachers participated in the online survey. Of these, 28.6% were males and 71.4% were female. In terms of the schools they worked at, 36.2% served in comprehensive schools (Grades 1–9), 48.0% in lower secondary schools (Grades 7–9), and 22.5% in general upper secondary schools (Grades 10–12). Some teachers worked in more than one type of school simultaneously and were included in both. When indicating their current position(s), the respondents chose all the positions that they occupied at that time. The majority were subject teachers (73.9%), followed by class teachers (10.3%), special education teachers (7.9%), guidance counsellors (6.4%), assistant principals (3.9%) and vice-principals (2.5%). Notably, since the present study solely focused on Finnish teachers' perceptions on distributed leadership, Finnish principals did not participate in this survey. Because assistant and vice-principals dedicate only 5-10% of their working hours to administration and the rest 90-95% to teaching (Mäkelä, 2007), they were regarded as teachers and invited to participate in the survey.

Reliability and validity

The reliability of the study was first examined by evaluating the missing data. Little's (1988) MCAR test showed that the missing data were completely randomly distributed: $\chi 2\ (7401) = 6806.525$, $p = .977$. The absence of a systematic pattern in the missing item values indicated that the results of the statistical analysis would be trustworthy. Second, Cronbach's alpha values were calculated to estimate the internal consistency of the measure in each section. Results revealed that all the Cronbach's alpha values were above .80, suggesting optimal internal consistency (Wells, Wollack, 2003). More specifically, the 17 items in the *leadership as a resource* section measured the same construct: $\alpha = .802$, $p < .001$. In the *leadership as an agency* section, the Cronbach alpha value for each subgroup showed excellent internal consistency: principal's agency ($\alpha = .825$, $p < .001$), mid-level team leaders' agency ($\alpha = .962$, $p < .001$), and teach-

ers' agency ($\alpha = .831$, $p < .001$). In the *motivator and demotivator* section, the Cronbach's alpha values for the 12 motivators and 12 demotivators were .895 and .853 ($p < .001$) respectively, which also confirmed high reliability of the results.

Validity indicates how a survey instrument measures what it intends to measure. According to Kimberlin and Winterstein (2008, p. 2278), validity is not a property of the test itself but "the extent to which the interpretations of the results of a test are warranted." To comprehend a complex phenomenon like distributed leadership, it is vital to use survey constructs backed by robust theoretical foundations and existing empirical evidence. In this study, to ensure construct validity, all the survey items were generated from an extensive meta-analysis of 85 published studies on distributed leadership released between 2002 and 2013 (Tian et al., 2015). Further, content validity was evaluated by four distributed leadership experts from Finland, the U.K., and China before the pre-test. As mentioned earlier, two modifications were made to the current positions list in the demographics section. The English–Finnish translation of the survey was performed by a Finnish educational expert with a background in English linguistics. Before administering the survey to a wider audience, six Finnish teachers from comprehensive, lower, and upper secondary schools were invited to pre-test it online. Follow-up interviews with these pre-testees confirmed the appropriateness of the survey content and its translation.

3. Results

Leadership structure and power distance

With regard to the four metaphors of leadership structure, although Finnish teachers were given the opportunity to choose multiple answers, all the respondents ($n = 198$) chose only one metaphor to describe their school leadership. The most popular leadership structure was the *spider's web* (42.42%), which was followed by the *pyramid* (28.28%) and the *organic teams* (27.27%). Only 2% of the teachers chose the bottom-up *fountain* structure. Both the *spider's web* and *pyramid* structures signified one power center, while both the *spider's web* and *organic teams* structures underlined the flexibility feature.

The continuous 0–10 power distance scale was evenly divided into three categories: low (0–3.33), medium (3.34–6.66) and high (6.67–10). More than half of the Finnish teachers (55.56%) observed a *low* power distance between them and their principals. Another quarter (26.26%) reported a *medium* power distance, and only a minority (18.18%) perceived a *high* power distance. Pearson's chi square test of independence showed strong evidence of a relationship between leadership structures and power distance (Table 2): $\chi 2\ (6) = 37.599$, $p < .001$.

The residual analysis identified that the *pyramid, spider's web*, and *organic teams* in particular contributed to the re-

Table 2. Leadership structures and power distance

			Power distance		
			Low	Medium	High
Leadership structure	Pyramid	Count	16	16	24
		Expected Count	31.1	14.7	10.2
		Std. Residual	-2.7	.3	4.3
		Adjusted Residual	-4.8	.5	5.7
	Fountain	Count	3	1	0
		Expected Count	2.2	1.1	.7
		Std. Residual	.5	.0	-.9
		Adjusted Residual	.8	-1	-1.0
	Spider's web	Count	57	19	8
		Expected Count	46.7	22.1	15.3
		Std. Residual	1.5	-.7	-1.9
		Adjusted Residual	3.0	-1.0	-2.7
	Organic team	Count	34	16	4
		Expected Count	30.0	14.2	9.8
		Std. Residual	.7	.5	-1.9
		Adjusted Residual	1.3	.7	-2.4

3 cells (25.0%) have expected count less than 5. The minimum expected count is .73.

Source: own elaboration

lationships between leadership structure and power distance. Two cells had positive adjusted residual values that exceeded 2. This indicated that at $\alpha = .05$ level, more teachers who worked under the *pyramid* structure experienced a *high* power distance and more teachers who worked under the *spider's web* structure experienced a *low* power distance than what would be expected by chance (Agresti, 2007). Conversely, three adjusted residual values were greater than -2. This meant at $\alpha = .05$ level, fewer teachers who worked under *spider's web* and *organic teams* structures detected a *high* power distance than what would be expected by chance (Agresti, 2007). Likewise, teachers who linked the *pyramid* structure with a *low* power distance were significantly under represented at $\alpha = .05$ level.

To summarize, a *low* power distance was experienced by 69.69% of the Finnish teachers who worked in *spider's web* and *organic teams* structures. The other 28.28% teachers who worked in the *pyramid* structure, however, detected a

high power distance. Only 2% teachers worked in *fountain*, and this structure was not statistically associated with any specific range of power distance.

Leadership as a resource

On the basis of the mode value, the most frequently occurring value in the dataset, the influence of the 17 resources was categorized into four tiers. According to the Finnish teachers (n = 203), the *principal* was the only *decisive* leader for daily school operations (mode = 5). *Vice-/assistant principals, school culture, budget, curriculum, local educational policies* and *national educational laws* were grouped in the second tier, exerting a lot of influence on school leadership operations (mode = 4). *Team leaders, teachers, school board, superintendent, school reputation, and students' test scores* served as resources in Finnish schools only *to some extent* (mode = 3). Alarmingly, *students, parents,* and *external stakeholders*, along with *information sharing platform*, exerted *little* impact on school leadership, according to the Finnish teachers (mode = 2).

On being asked to decrease, maintain, or increase the influence of each item, over one-third of the respondents wanted to decrease the influence of *budget* (71.8%, n = 203), *national educational laws* (37.8%), and *local educational policies* (45%). Spearman's correlation test revealed positive relationships among these three variables. These results seemed to suggest two things. First, artefacts such as budget, laws and policies were powerful tools to influence school leadership work. Second, *national* (ρ = 0.248, $p < .001$) and *local* (ρ = 0.356, $p < .001$) *educational laws and policies* might negatively influence school administration through budget cuts.

Over one-third of the respondents wanted to increase the influence of *team leaders* (35.9%, n = 203), *teachers* (45.3%), and *students* (45.8%). Likewise, positive correlations were found among these three variables. This result indicated that the teachers' believed that these three actors are largely underappreciated in Finnish schools. The Finnish teachers wished to assume more leadership responsibilities. Meanwhile, they expected more leadership would be granted to *team leaders* (ρ = 0.428, $p < .001$) and *students* (ρ = 0.191, $p < .001$). Interestingly, Spearman's correlation test failed to detect any statistically significant correlations between the three artefacts whose influence had to be decreased (i.e., *budget, national educational laws, and local educational policies*) and the three actors whose influence had to be increased (i.e., *team leaders, teachers and students*). This result possibly suggests that despite national and local level austerity measures, leadership resources could be cultivated within the school by empowering team leaders, teachers, and students.

Leadership as a resource

Viewing leadership as an agency helped identify who led what work processes in Finnish schools. As mentioned in the instrument section, the present study examined the agency of the principal, mid-level team leaders, and teachers in 10 concrete work processes related to *administration, pedagogy, strategic development, and relationship building*. The respondents were asked to repeatedly evaluate the amount of agency exercised by the three subgroups on a five-point Likert scale (0 = not sure, 1 = none, 2 = very little, 3 = some, 4 = a lot). At the within-group level, the valid percent of point 3 (some) and 4 (a lot) was summed up and ranked. At the between-group level, the nonparametric Friedman's test was used to examine the discrepancies and rank the amount of

Table 3. Between- and within-group ranks of agency in 10 work processes

Leadership processes Friedman's test	Principals		Team leaders		Teachers	
	Between-group mean ranks	Within-group ranks (Valid percentage some–a lot)	Between-group mean ranks	Within-group ranks (Valid percentage some–a lot)	Between-group mean ranks	Within-group ranks (Valid percentage some–a lot)
Setting school vision $\chi 2$ (2) = 107.375 $p < .001$, $n = 195$	2.49	5 (88.6%)	1.61	3 (63%)	1.90	4 (76.4%)
Making strategic plans $\chi 2$ (2) = 149.308 $p < .001$, $n = 187$	2.62	3 (91.5%)	1.61	4 (62%)	1.77	6 (71%)
Leading students' learning $\chi 2$ (2) = 212.507 $p < .001$, $n = 192$	1.56	10 (52.8%)	1.67	5 (60.3%)	2.77	1 (97.5%)
Developing school culture $\chi 2$ (2) = 26.767 $p < .001$, $n = 191$	2.14	7 (87.2%)	1.67	1 (73.7%)	2.10	2 (92.1%)
Leading teacher teams $\chi 2$ (2) = 14.015 $p < .001$, $n = 192$	2.17	9 (75.4%)	1.98	2 (63.4%)	1.85	7 (65.8%)
Managing administrative work $\chi 2$ (2) = 272. 493 $p < .001$, $n = 192$	2.88	1 (96.6%)	1.57	9 (35.1%)	1.55	10 (29.4%)
Delegating tasks $\chi 2$ (2) = 137.396 $p < .001$, $n = 189$	2.60	2 (93.5%)	1.71	7 (54.7%)	1.69	8 (53.7%)
Evaluating school performance $\chi 2$ (2) = 100.823 $p < .001$, $n = 186$	2.45	4 (88.9%)	1.59	6 (58.3%)	1.96	3 (79.2%)
Networking with stakeholders $\chi 2$ (2) = 116.022 $p < .001$, $n = 190$	2.51	6 (87.6%)	1.61	8 (50.5%)	1.88	5 (72%)
Providing resources $\chi 2$ (2) = 169.829 $p < .001$, $n = 173$	2.70	8 (84.9%)	1.54	10 (23.1%)	1.76	9 (33%)

Source: own elaboration

agency exercised by the three subgroups. Table 3 presents the results of the between- and within-group ranks of agency.

At the within-group level, principals seemed to be more agentic in leading *school administration* and *strategic development* than *pedagogy* or *relationship building*. The principal's leadership was most evident in the processes of *managing administrative work*, *delegating tasks,* and *making strategic plans*. On the other hand, teachers' agency was the strongest in domains of *pedagogy* and *relationship building*, such as *leading students' learning, developing school culture, and evaluating school performance*. In addition to building internal relationship with students and peers through teaching and school culture, the Finnish teachers were also actively *networking with stakeholders*. Team leaders appeared to play a pivotal role in the *relationship building and school administration domains*. Their agency was most visible in *developing school culture, leading teacher teams*, and *setting school vision*. Only few teachers acknowledged team leaders' and teachers' agency in *providing resources* or *managing administrative work*.

At the between-group level, nonparametric Friedman's tests revealed that at $\alpha = .05$ level, statistically significant differences were observed among principals', team leaders', and teachers' agency in all the 10 work processes. This confirmed that in Finnish schools, leadership was not distributed in an undifferentiated manner. Principals were unsurprisingly the most prominent leaders in almost all the work processes with the exception of *leading students' learning*. Notably, according to the between-group mean ranks, the amount of agency did not directly correspond to the organizational hierarchy in the school. Although mid-level team leaders possessed a higher administrative position than teachers, their agency was not always ranked higher than teachers' agency.

Motivators and demotivators

With regard to workload, a majority of the Finnish teachers found the workloads to be *just fine* (79.12%, n =144) or *too light* (1.65%, n = 3). The rest 19.23% (n= 35) considered it *too heavy*. In the analysis, the first two subgroups were combined into non-overloaded teachers (80.77%, n = 147), who were then compared with the overloaded teachers (19.23%, n = 35).

For evaluating the effectiveness of the motivators and demotivators, the six-point Likert scale (0 = not sure, 1 = not at all, 2 = very little, 3 = some degree, 4 = quite a bit, 5 = a great deal) was re-coded into two categories: 0–2 = low effectiveness, 3–5 = high effectiveness. Table 4 shows the chi-square test results of the relationships between teachers' workload and the 12 motivators.

At $\alpha = .05$ level, the chi-square test results showed strong evidence of a relationship between teachers' workload and two motivators: *principal's support* and *extra pay*. Particularly, for most of the

Table 4. Workload and 12 motivators

12 Motivators	Overloaded teachers (n = 35) Rank	Valid percentage of teachers who rated high effectiveness	Non-overloaded teachers (n = 147) Rank	Valid percentage of teachers who rated high effectiveness	Chi-square test
Enough time	1	97.1%	2	97.2%	$\chi2\,(1) = 0.003$, $p = .954$
Democratic culture	1	97.1%	1	97.3%	$\chi2\,(1) = 0.004$, $p = .949$
Trust from others	1	97.1%	5	93.1%	$\chi2\,(1) = 0.760$, $p = .383$
Enough financial resources	4	94.1%	6	92.4%	$\chi2\,(1) = 0.119$, $p = .730$
Task matching expertise	5	91.2%	4	93.8%	$\chi2\,(1) = 0.290$, $p = .590$
Colleagues' recognition*	6	82.4%	7	84.8%	$\chi2\,(1) = 0.128$, $p = .721$
Career opportunities	7	81.8%	8	81.5%	$\chi2\,(1) = 0.002$, $p = .967$
Principal's support	7	81.8%	3	95.2%	$\chi2\,(1) = 7.081$, $p = .008$**
Extra pay	9	64.7%	9	80.8%	$\chi2\,(1) = 4.144$, $p = .042$**
Decision-making power	9	64.7%	10	75.3%	$\chi2\,(1) = 1.595$, $p = .207$
Risk-bearing environment	11	60.6%	11	63.7%	$\chi2\,(1) = 0.111$, $p = .739$
Official leadership title	12	38.2%	12	29.9%	$\chi2\,(1) = 0.895$, $p = .344$

*1 cells (25%) have expected count less than 5.
** $p < .05$ which indicated the evidence of dependence

Source: own elaboration

teachers who were non-overloaded (n = 147), receiving *principal's support* was the third strongest motivator behind their participation in distributed leadership. By comparison, for the remaining 35 teachers, who were already overloaded, *principal's support* seemed to exert a relatively weaker impact on their participation. A similar interpretation can be drawn with regard to *extra pay*. Rewarding extra leadership work with *extra pay* seemed to motivate the non-overloaded teachers more effectively than the overworked ones.

The chi-square test results failed to detect any association between the effectiveness of the remaining 10 motivators and workload. This indicated that similar approaches could be utilized to enhance teachers' willingness to lead. Over 90% of the teachers in both groups chose the same top five motivators, although in a slightly different order. Among them, both resource (i.e., *enough time, enough financial resources*, and *task matching expertise*) and agency (i.e., *democratic culture and trust from others*) aspects were critical. Table 5 illustrates the positive correlations among these top five motivators.

The results of the correlational analysis confirmed that to encourage teachers to assume additional leadership responsibilities, providing leadership resources and supporting teachers' agency are the optimal strategies. Interestingly, compared to the other motivators, considerably fewer Finnish teachers in both groups were effectively motivated by an *official leadership title*. Therefore, simply creating and distributing leadership titles to a wider community do not seem to be an effective approach.

A similar statistical analysis was carried out to assess the demotivators that prevented Finnish teachers from assuming additional responsibilities. However, the chi-square test results failed to detect

Table 5. Correlations among top five motivators

		Enough time	Enough financial resources	Task matching expertise	Democratic culture	Trust from others
Enough time	Pearson Correlation	1	.441**	.217**	.294**	.242**
	Sig. (2-tailed)		.000	.002	.000	.001
	N	200	200	198	200	198
Enough financial resources	Pearson Correlation	.441**	1	.309**	.232**	.264**
	Sig. (2-tailed)	.000		.000	.001	.000
	N	200	200	198	200	198
Task matching expertise	Pearson Correlation	.217**	.309**	1	.256**	.559**
	Sig. (2-tailed)	.002	.000		.000	.000
	N	198	198	199	199	197
Democratic culture	Pearson Correlation	.294**	.232**	.256**	1	.286**
	Sig. (2-tailed)	.000	.001	.000		.000
	N	200	200	199	201	199
Trust from others	Pearson Correlation	.242**	.264**	.559**	.286**	1
	Sig. (2-tailed)	.001	.000	.000	.000	
	N	198	198	197	199	199

**Correlation is significant at the 0.01 level (2-tailed).

Source: own elaboration

statistically significant between-group differences at α = .05 level in relation to the ranks of the 12 demotivators (Table 6).

Both teacher groups shared similar views on the effectiveness of the 12 demotivators. The top six demotivators comprised four resource-related items and two agency-related items. From the resource perspective, *taking away financial resources* and *extra pay*, *dis-*

Table 6. Workload and 12 demotivators

12 Demotivators	Overloaded teachers (n = 35) Rank	Valid percentage of teachers who rated high effectiveness	Non-overloaded teachers (n = 147) Rank	Valid percentage of teachers who rated high effectiveness	Chi-square test
Insufficient financial resources	1	94.1%	2	88.3%	$\chi2$ (1) = 0.991, p = .320
No support from the principal	2	90.9%	1	89.0%	$\chi2$ (1) = 0.107, p = .744
No extra pay	3	88.2%	3	80.8%	$\chi2$ (1) = 1.037, p = .309
Distraction from teaching	4	79.4%	6	74.5%	$\chi2$ (1) = 0.361, p = .548
No decision-making autonomy	5	76.5%	4	80.7%	$\chi2$ (1) = 0.305, p = .581
Excessive administrative work	5	76.5%	5	76.6%	$\chi2$ (1) = 0.000, p = .992
Task mismatching expertise	7	70.6%	7	72.7%	$\chi2$ (1) = 0.063, p = .802
Mistrust from others	7	70.6%	8	67.1%	$\chi2$ (1) = 0.152, p = .697
No career opportunities	9	63.6%	9	65.6%	$\chi2$ (1) = 0.042, p = .838
Punishment for failure	10	44.1%	10	35.4%	$\chi2$ (1) = 0.893, p = .345
No official leadership title	11	42.4%	11	30.8%	$\chi2$ (1) = 1.640, p = .200
Competition with colleagues	12	25.6%	12	25.3%	$\chi2$ (1) = 0.018, p = .892

Source: own elaboration

Table 7. Correlations among top six demotivators

		No extra pay	No decision-making autonomy	No support from the principal	Insufficient financial resources	Distraction from teaching	Excessive administrative work
No extra pay	Pearson Correlation	1	.257**	.243**	.463**	.204**	.202**
	Sig. (2-tailed)		.000	.001	.000	.004	.004
	N	201	200	199	200	200	200
No decision-making autonomy	Pearson Correlation	.257**	1	.263**	.314**	.063	.133
	Sig. (2-tailed)	.000		.000	.000	.376	.062
	N	200	200	198	199	199	199
No support from the principal	Pearson Correlation	.243**	.263**	1	.285**	.064	.171*
	Sig. (2-tailed)	.001	.000		.000	.370	.016
	N	199	198	199	198	198	198
Insufficient financial resources	Pearson Correlation	.463**	.314**	.285**	1	.220**	.237**
	Sig. (2-tailed)	.000	.000	.000		.002	.001
	N	200	199	198	200	199	199
Distraction from teaching	Pearson Correlation	.204**	.063	.064	.220**	1	.353**
	Sig. (2-tailed)	.004	.376	.370	.002		.000
	N	200	199	198	199	200	199
Excessive administrative work	Pearson Correlation	.202**	.133	.171*	.237**	.353**	1
	Sig. (2-tailed)	.004	.062	.016	.001	.000	
	N	200	199	198	199	199	200

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Source: own elaboration

tracting teachers from teaching and loading them with e*xcessive administrative work* seemed to create an insecure and unpleasant work environment that considerably restrained teachers from leading. From the agency perspective, the *absence of principal's support* and *decision-making autonomy* exerted a strong negative impact on teachers' motivation to lead. Moreover, significant positive correlations were found among these top six demotivators (Table 7).

These results highlight the interdependence of factors within the resource–agency duality model. For instance, *no support from the principal* was associated with providing *insufficient financial resources* or restraining teachers' *decision-making autonomy*. Last but not least, less than half of the Finnish teachers in both groups ranked *punishment for failure, no official leadership title,* and *competi-*

tion with colleagues as the least effective demotivators. One interpretation could be that Finnish schools seldom use market-like competition and test-based accountability to punish or reward teachers (Sahlberg, 2015). The low effectiveness of these three demotivators can probably be attributed to the fact that punishment and competition are rarely experienced by the teachers in their daily practice.

4. Discussion

Using the resource–agency duality model (Tian et al., 2015) as a lens, this study set out to examine the relationships between leadership structures and power distance, map the resource and agency distribution, and identify the key motivators and demotivators underlying Finnish teachers' participation in distributed leadership.

No one structure fits all

The first research question posed at the beginning of this paper was *What are the manifestations of distributed leadership in terms of resource and agency in Finnish schools?* The results of the survey indicate that there is no one leadership structure that fits all the Finnish schools. Teachers who worked in less hierarchical structures, such as the *spider's web* and *organic teams*, perceived a low power distance, while others who served in the *pyramid* structure perceived a high power distance. The bottom-up leadership structure, the *fountain,* was rare but not absent. No correlation was found between the *fountain* structure and power distance.

The diversity of school leadership structures in Finland can be explained by the educational transformation in the late 1980s (Antikainen, 2005). From 1972 to 1977, Finland carried out comprehensive school reforms by restructuring the elite-oriented parallel system (i.e., grammar school and civic school) into an equity-driven nine-year comprehensive school system with a strong centralized administration (Aho, Pitkänen, Sahlberg, 2006). However, a significant change took place in the late 1980s: the provision of primary and secondary education was decentralized to municipalities. Local schools, with their increasing autonomy, began to establish various types of leadership structures to serve administrative and pedagogical purposes. Along with the decentralization process, the central government issued national-level guidelines, such as the Basic Education Act, national core curricula, and national evaluation plan, to safeguard the sustainability and consistency of the local education provision. The 1990s marked the era of networking and self-regulated school leadership (Sahlberg, 2011). Schools began to network more extensively with external stakeholders, including local communities, other schools, parents, the labor market, and international institutions like OECD and the European Union. The collaboration with stakeholders enabled schools

to obtain extra resources for developing their school profiles (Antikainen, 2006). To summarize, according to Hargreaves and Shirley (2012), Finland illustrates the fourth way of educational reform. The Finnish education system has a strong national vision, with the direction coming from the top, local authorities, and professional teachers builiding the process from the bottom, and key stakeholders providing support from the side. Equity, autonomy, and sustainability are the key values underpinning the whole system. Hence, school leadership structures and the process of leading do not follow an established blueprint. Instead, self-directed school leadership is strongly encouraged.

The alignment and misalignment between resource and agency

The second key result of the study, which also addresses the first research question, highlights that viewing leadership as a resource and as an agency varies according to roles, situations and purposes. The results showed that the school principal was the most prominent resource person whose agency was strongly manifested in leading *school administration* and *strategic development.* Teachers, in contrast, were highly agentic in leading *pedagogy* and *relationship building*. Mid-level team leaders seemed to play a pivotal role by leading *school administration* and *relationship building*. Only in three administration-related work processes that the mid-level teachers' agency was ranked higher than that of the teachers: *leading teacher teams, managing administrative work, and delegating tasks*. Two interpretations were proposed to explain this phenomenon. First, it was likely that in Finnish schools, team leaders' authority was not robustly underpinned by positional power. Owing to the lack of legitimacy and the low power distance, teachers might perceive team leaders more as team representatives than superiors. Second, the existing education system granted Finnish teachers a high level autonomy to independently lead teaching-related work processes without excessive external control (Sahlberg, 2015).

Taken together, these results are not surprising as they support existing literature on distributed leadership. Regarding curriculum reform and enactment, leadership seems to be distributed more in favor of the teachers than the school administrators (Halverson, Clifford, 2013; Mullick, Sharama, Deppler, 2013). In some extreme cases, teachers may even be superior to formal leaders, especially when the principal is overloaded with managerial tasks and cannot undertake tasks related to teaching and learning (Fairman, Mackenzie, 2015). Murphy, Smylie, and Louis (2009) advocate that distributed leadership should not undermine formal leadership; however, the principal's role must be changed from that of a solo decision maker to that of a leader of leaders. The task of building a collegial climate to improve teachers' morale is entrusted to mid-level team leaders. Even in a less col-

legial environment, using team leaders to resolve the resistance from teachers seems more effective than top-down administrative orders (Fairman, Mackenzie, 2015).

In addition to confirming the earlier distributed leadership findings, the present study also identified instances of alignment and misalignment between resource and agency. Misalignment led to the school members' agency being restricted. From the resource perspective, three artefacts whose influences that the Finnish teachers wanted to decrease considerably were *school budget, local educational policies*, and *national educational laws*. That these factors were positively correlated suggests that the current economic recession possibly affects the school budget through legislations and policies. Given the ongoing educational changes in Finland, resources have become scarcer. Since the 1990s, state subsidies and transfers to local municipals are no longer earmarked. Municipalities receive general funds from the state on the basis of unit costs and then autonomously decide the share for education and other public services (Aho, Pitkänen, Sahlberg, 2006). Thus, the tighter austerity measures, the tighter the schools budgets. In order to optimize resource distribution and efficiency, a five-year municipal administration reform, i.e., PARAS, was launched to merge municipalities between 2008 and 2013 (OECD, 2010). As a result, the number of Finnish municipalities has decreased from 432 in 2006 to 317 in 2015. A similar trend has been witnessed in the case of schools in Finland. Statistics show that from 2008 to 2013, the number of educational institutions has decreased by 16%, even though the total number of students is at the same level (Suomen virallinen tilasto, 2014). All these measures indicate that new managerialism has gradually tightened its grip on the Finnish education system.

Sahlberg (2011) warns that overemphasizing rationalism, efficiency, and productivity may undermine the moral purpose of education. This view is supported by Hökka and Vähäsantanen (2014) who write that blindly adopting new management models may jeopardise teachers' commitment. Highlighting the Finnish teachers' perspective, the present study shows that the current leadership resource distribution is not at its optimum. The survey responses clearly showed that the Finnish *teachers* wanted to exert a stronger impact on school leadership work together with *students* and *mid-level team leaders*. Accordingly, Hökka and Vähäsantanen (2014) have proposed an agency-centered coupling structure, which shed light on distributed leadership. When financial resources are decreasing and administrative boundaries are on the rise, distributed leadership should go beyond selecting the most appropriate physical structure for an organization, irrespective of whether the structure is tightly or loosely coupled. In such situations, an agency-centered coupling structure is ideal for creating leadership opportunities for meaningful cooperation,

high-quality communication, and shared meaning construction in a more dynamic way (Hökka, Vähäsantanen, 2014).

The upcoming Finnish national core curricula 2016 program seem to have adopted the same vein of thinking. The new curricula focus on developing students' transversal competences through phenomenon-based learning. In practice, this implies that Finnish teachers will collaborate more extensively not only with students but also with colleagues from different subject backgrounds. Inevitably, more leadership will be distributed to teachers and students throughout the whole pedagogical process from planning and implementation to evaluation and reflection. Against the backdrop of economic recession, cultivating leadership resources among mid-level team leaders, teachers, and students through agency-centered coupling might be a novel solution to enhance the school dynamics without adding to the financial burden of the school.

Driving force behind distributed leadership

Given the trends of school mergers and individualized learning, distributing more leadership among the teachers seems inevitable. With regard to the second research question, *what are the key motivators and demotivators underlying Finnish teachers' participation in distributed leadership*, the syntheses of the top motivators and demotivators revealed a strong interdependent relationship between resource and agency. Providing *sufficient time* and *financial resources* was strongly linked with supporting teachers' agency with *trust* and a *democratic culture*. Likewise, the analysis of the most effective demotivators revealed that the *absence of financial resources, principal's support* and *extra pay* would tremendously discourage teachers' engagement in leadership work. Notably, overloading teachers with *excessive administrative* tasks or *distracting them from teaching* were clearly undesirable. Finnish teachers did not expect to lead any tasks that were not *matched their expertise*. Interestingly, granting an *official leadership title* did not substantially motivate the Finnish teachers, and taking it away did not seem to discourage them as strongly as the other factors.

The collection of motivators and demotivators underlying Finnish teachers' participation in distributed leadership has historical roots. During the comprehensive education reform in the 1970s, both pre- and in-service teacher education advanced rapidly. Since 1978, a master's degree in science or arts has become a pre-requisite qualification for all Finnish teachers. As one of the most popular professions in Finland, being a teacher has been traditionally respected in society. Since the early 1990s, as the accountability culture in Finnish schools has weakened, professional autonomy of the teachers has grown stronger (Hökka, Vähäsantanen, 2014). The teacher's

role is transformed from a knowledge deliverer to a pedagogical leader (Säntti, 2007). Unlike many other countries which heavily rely on external incentives like a teacher's professional title, merit, pay, and formal leadership titles to motivate teachers, Finnish schools trust their teachers to use their professional judgment and autonomy with as little external control as possible (Sahlberg, 2015). The more sustainable and effective driving force behind distributed leadership, therefore, seems to lie in providing leadership opportunities and resources that support Finnish teachers' agency.

5. Driving force behind distributed leadership

This study offers several noteworthy implications. Theoretically, the study demonstrates a successful application of the distributed leadership resource–agency duality model. Empirical evidence from the data supports the conceptual premise that leadership as a resource and leadership as an agency are two inseparable aspects. Nonetheless, there could be both alignment and misalignment between them. Practically, this study explains how the current landscape of distributed leadership in Finnish schools has been shaped by a series of educational reforms since the 1970s. The ongoing school mergers, austerity measures on school budgets, and more learner-centered curricula reforms all seem to call for expanding the depth and breadth of distributed leadership in the future. Cultivating leadership resources from Finnish teachers with agency-centered coupling has been proposed as a likely solution. These leadership resources include time, financial resources, and trust, which would enable Finnish teachers to use their expertise in the relevant tasks. On the contrary, sharing excessive administrative tasks with the teachers or creating a steep hierarchy with numerous leadership positions are less favorable approaches for distributed leadership.

Lastly, the generalizability of these results is subject to certain limitations. First, this study is based on a relatively small sample of Finnish teachers because of the limited access to schools. Second, as part of a larger comparative study, the main purpose of this quantitative study is to describe the resource and agency distribution and identify the key motivators and demotivators underlying Finnish teachers' participation in distributed leadership. Given its descriptive nature, this study did not explore the more sophisticated causal relationships among the different variables. In other words, this study has addressed what leadership has been distributed to whom and how; the reasons for this distribution have been investigated using eight qualitative case studies in another paper.

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